



AMENDMENTS TO THE CLAIMS

1. (currently amended) An adenoviral vector that mediates ~~increased~~ gene delivery *in vivo* comprising:

(i) a targeting component that targets said vector to specific target cells, wherein said targeting component comprises a bi-specific molecule that binds to the knob protein of said adenoviral vector and an angiotensin converting enzyme molecule expressed on said target cells; and

(ii) a tissue-specific promoter that drives the expression of a transgene carried by said vector in said target cells, wherein said adenoviral vector mediates increased gene delivery to said target cells and reduces transgene expression in non-target cells as compared to adenoviral vector without said targeting component and said tissue-specific promoter.

2. (canceled)

3. (currently amended) The adenoviral vector of claim 1 [[2]], wherein said bi-specific molecule is a bi-specific antibody conjugate

linking a Fab fragment of an anti-Ad5 knob antibody with an anti-angiotensin converting enzyme antibody.

4. (original) The adenoviral vector of claim 3, wherein said anti-Ad5 knob antibody is 1D6.14 and said anti-angiotensin converting enzyme antibody is 9B9.

5. (currently amended) The adenoviral vector of claim 4, wherein said tissue-specific promoter is ~~selected from the group consisting of~~ vascular endothelial growth factor type 1 receptor promoter, ~~ICAM-2 promoter, vonWillebrand factor promoter and VEGF receptor promoter.~~

6. (original) The adenoviral vector of claim 5, wherein said target cells are pulmonary endothelial cells.

7. (currently amended) A method of gene delivery by adenoviral vector, comprising the step of:

contacting target cells with an adenoviral vector comprising (i) a targeting component that targets said vector to specific target cells, wherein said targeting component comprises a

bi-specific molecule that binds to the knob protein of said adenoviral vector and an angiotensin converting enzyme molecule expressed on said target cells, and (ii) a tissue-specific promoter that drives the expression of a transgene carried by said vector in said target cells, wherein said adenoviral vector has increased targeting specificity to said target cells and results in reduced transgene expression in non-target cells as compared to adenoviral vector without said targeting component and said tissue-specific promoter.

8. (canceled)

9. (currently amended) The method of claim 7 [[8]], wherein said bi-specific molecule is a bi-specific antibody conjugate linking a Fab fragment of an anti-Ad5 knob antibody with an anti-angiotensin converting enzyme antibody.

10. (original) The method of claim 9, wherein said anti-Ad5 knob antibody is 1D6.14 and said anti-angiotensin converting enzyme antibody is 9B9.

11. (currently amended) The method of claim 10, wherein the tissue-specific promoter of said adenoviral vector is ~~selected from the group consisting of~~ vascular endothelial growth factor type 1 receptor promoter, ~~ICAM-2 promoter, vonWillebrand factor promoter and VEGF receptor promoter.~~

12. (original) The method of claim 11, wherein the target cells are pulmonary endothelial cells.